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## **ABSTRACT**

A control circuit for controlling a bias circuit coupled to an amplifier is disclosed. An exemplary bias control circuit comprises means for receiving a control voltage, and means for actively adjusting an equivalent resistance of the bias control circuit responsive to the control voltage, wherein the equivalent resistance is established between the first node and a reference voltage. In one embodiment, when the control voltage is increased, the equivalent resistance is gradually decreased and a current drawn by the bias control circuit is gradually increased, resulting in a quiescent current of the amplifier transistor being gradually increased.